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ABSTRACT

This newsletter special issue provides a compendium of information, strategies, and resources concerning the use of technology by individuals with special needs. A section on strategies for the effective use of technology contains the following papers: "A Philosophy for the Use of Technology in Special Education" (A. Edward Blackhurst and Margaret B. Shuping); "Transforming the Computer into a High-Tech Folk Instrument" (Nancy A. Norman); and "Research Highlights on Technology Integration." This section also contains short articles on selecting special education software, access issues, the National Unicorn User's Group, funding, and technology applications in higher education, and presents a sample training material for adaptive device trouble shooting. A section on resources contains a paper by Dave L. Edyburn titled "Locating Information about Software" and contains notes about products of the Center for Special Education Technology, the Alliance for Technology Access, the ERIC/OSEP Research directory available from the Council for Exceptional Children, and IBM's National Support Center for Persons with Disabilities. A section on events lists technology conferences scheduled for November 1990 to July 1991, and a final section describes the goals and activities of the Technology and Media Division (TAM) of the Council for Exceptional Children. (JDD)

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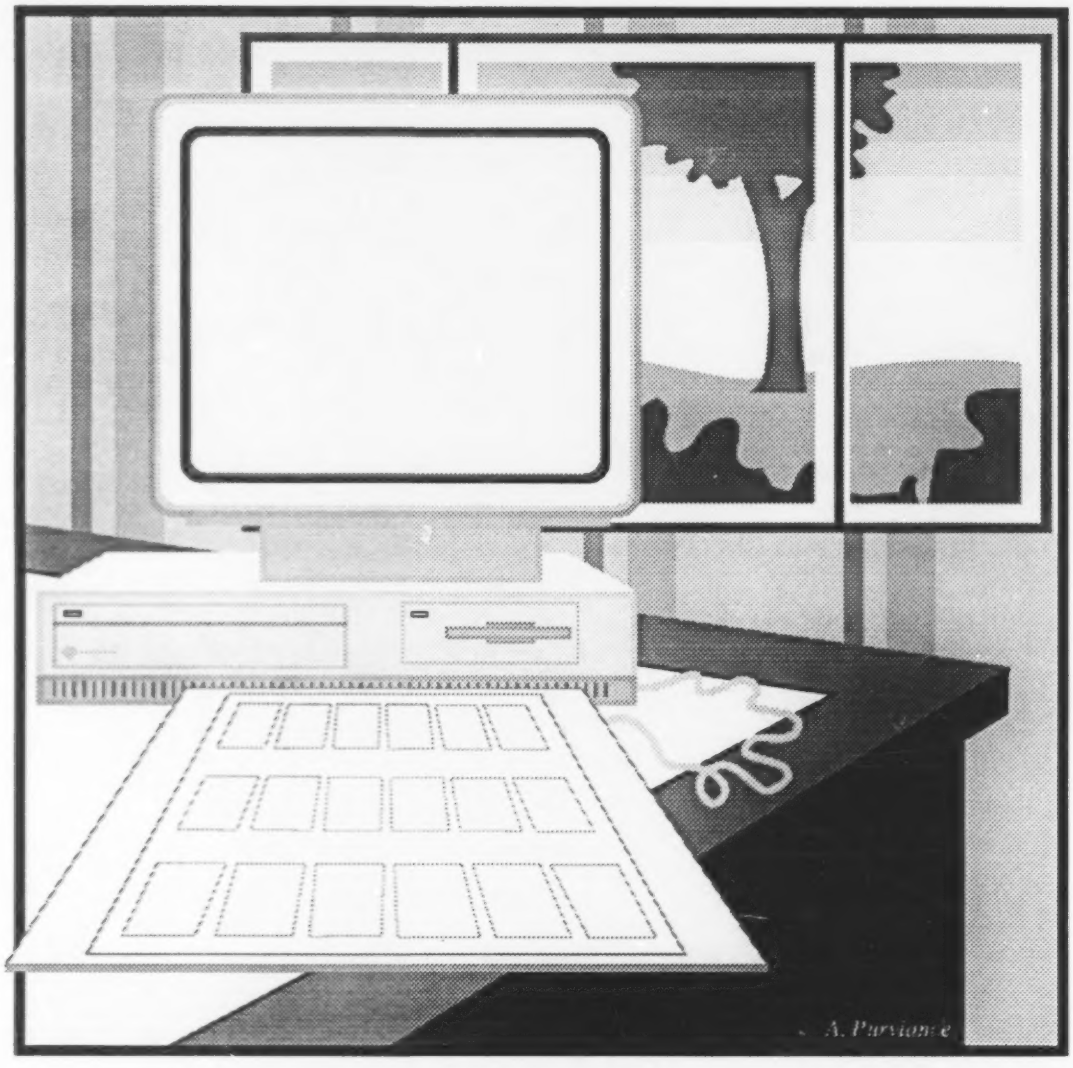
Technology and Media Division
The Council for Exceptional Children

# Back-to-School Special Education Technology Resource Guide




*Special Issue*

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# Welcome!

This special issue of the TAM Newsletter was designed to provide TAM members with a compendium of information, strategies, and resources concerning the use of technology by individuals with special needs. The resource guide is organized in four sections: Strategies, Resources, Events, and TAM News.

I hope you find numerous opportunities to use this publication during the 1990-91 school year. (A limited number of copies are also available for use in recruiting new TAM members.) While this guide began as an experiment, I would appreciate any thoughts, suggestions, etc. that you might be willing to share which will enable TAM to evaluate the success of this venture and plan new activities for the future.

Best wishes for a productive school year!

Dave L. Edyburn


**1990-91 TAM Back-to-School Resource Guide**

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# Inside...

pages 3-13

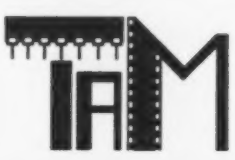
**Focuses on strategies for the effective use of technology**

pages 14-22

**Outlines useful resource publications and organizations**

pages 23-25

**Provides a year-long calendar of major events**



pages 26-32

**Describes the goals and activities of TAM**

# A Philosophy For the Use of Technology in Special Education

**By A. Edward Blackhurst and Margaret B. Shuping**
**Department of Special Education, University of Kentucky**

**Editor's Note:** This philosophy statement was abstracted from an article that has been submitted to *Teaching Exceptional Children*. It should not be duplicated without permission from the authors.

Technology is directly and indirectly affecting all members of society. Technological advances have altered most aspects of our lives including education, government, businesses, financial institutions, home management, health care, the work place and leisure activities. In order to respond to this influx of technology, all persons must learn to use technological tools for the benefit of themselves and others.

Schools have been assigned the responsibility of preparing students to function in our rapidly changing technological society. As technology becomes more accessible to schools, and accountability pressures mount, educators have many important decisions to make about applications of technology in educational environments. Concerns such as the definition of computer literacy, the extent of involvement technology should command in the curriculum, the types of settings in which technology should be used, hardware and software needs, funding sources, and staffing needs are among the many pressing issues that must be resolved if schools are to be responsive to society's demands.

Educators' first responsibility is to their students, and technology offers a broad range of activities to improve educational opportunities for all students. For example, microcomputer word processing programs permit students to write and revise compositions with ease. Telecommunication systems allow students to communicate with experts and other students at remote locations. Computer software and interactive video programs provide personalized instruction and immediate feedback as to the accuracy of learner responses. Compact discs and electronic databases let students gain immediate access to current information.

Students who are prepared to deal effectively with the demands of a technological, information-based society will be able to use computers for personal applications and recognize other potential uses and problems. They will understand what a computer is, how it operates, and the functions it can and cannot perform. They will be able to use technology as tools to improve the quality of their lives. They will develop values concerning the computer and its role in society. They will also understand the potential for the abuse of technology, such as violating the privacy of personal information that is stored in data files.

Students with special needs will be particularly affected by the applications of technology. Technology can be a valuable tool for persons with special needs for

**Continued on page 4**

# Philosophy Statement

From page 3

repetition, motivation, variety of presentation, individualization, short and concentrated study periods, and small incremental steps toward learning. Computers and their accompanying software programs and related equipment can help a concrete thinker follow and learn abstract concepts at an individualized rate. They can stimulate and immediately reinforce reluctant learners and remove pressures for legible handwriting and accurate spelling from the expression of complex thoughts.

Assistive and adaptive devices allow minds locked in uncontrollable bodies to be unleashed to express their needs and thoughts with others. These specialized devices permit students with communication disorders, physical disabilities and sensory impairments to gain control of their environment and enable them to participate more readily in the mainstream of education. For example,communication devices can talk for persons with speech impairments, computers with alternate input devices can write for those with physical disabilities, while speech synthesizers and digitizers can read text to students with visual impairments. Such applications can greatly enhance the independence and quality of life for those with disabilities.

Special Education teachers can use the computer as an efficient assistant to maintain records, calculate grades and generate letters and reports, thus allowing more time for instructing students. Software with data collection capabilities can offer systematic, quality instructional programs and reinforcing supplements to regular educational programming for learners. Student progress can be graphed and summarized to aid in educational decision-making and to facilitate correspondence with parents and other teachers. Individualized education programs (IEPs) can be developed and student progress monitored via computer.

Administrators can use technology to maintain centralized and easily retrievable information about students, staff, scheduling, management, maintenance, equipment, and materials. Contact with parents and others outside the school can be maintained easily with appropriate computer hardware and software programs. State and federal accountability reports and budget information can be efficiently prepared using electronic databases, spreadsheets, and word processing programs.

An organized plan and careful, deliberate decision making is necessary for the successful application of technology in the schools. the plan must be flexible enough to include small schools with few computers and related technologies and yet be applicable to schools that contain a variety of technological devices, computer laboratories, or computers in every classroom. The plan must include those classrooms in which students are exposed to a few minutes of computer use per day and those in which students spend part of nearly every class period interacting with various technologies.

The plan must be broad enough to accommodate traditional uses of technology, assistive and adaptive devices, a variety of software, and specialized applications of technology, such as telecommunications. Policies and procedures for ensuring equal access to technology, regardless of gender, racial or ethnic background, or disability must be developed. The plan must also be of sufficient scope to enable technology use at all levels, from learning basic computer operations to complex programming skills.

Various forms of technology have become an integral part of daily living and if educators accept their responsibility, they must prepare students to integrate into a technologically-oriented society through responsible, conscientious, and organized preparation and training. This responsibility is particularly critical for those students with special needs, who stand to profit from the use of technology more than many students in our nation's schools.

### Resource: Policy-Making

**Editor's Note**: In the book, *Special Magic: Computers, Classroom Strategies, and Exceptional Students*, (1988, Mayfield Publishing, Mountain View, CA) Mary Male discusses systematic planning and decision-making. The chapter, "Policy-Making: Avoiding Problems and Pitfalls," (pp. 237-251) outlines a number of useful strategies for assessing present policies regarding computer use by disabled students and suggestions for creating and evaluating new policies.

# Asking the Right Questions

What is the best special education software? Of the hundreds of questions we receive every month, none is more frequently asked -- or more frustrating to answer -- than this one.

Fact is, this question simply has no right answer.

What's the best color? The best bicycle? The best "regular" education software? These, too, are unanswerable questions...and for the very same reason: They're not specific. They beg the questions "For whom?" and "For what?"

We can't know what the most appropriate questions are for you. Your familiarity with your student, client, family member, or friend with disabilities makes you the only expert in this regard. We can, however, suggest that for your questions to lead to the most productive response, they need to include these two elements.

## "For whom?"

This question focuses on the individual user and explores whatever limitations he or she might have that would get in the way of using a computer. He may, for example, not be able to use a standard keyboard (or use it in the standard way). She may not be able to see the text and graphics on the screen or on the printed page.

So whenever you make a telephone call or fill out one of the enclosed postcards, always include enough descriptive information about the person with disabilities to help the appropriate resource be as responsive as possible.

Please understand that inserting a disability label here is not sufficient; it's just not descriptive enough. Two individuals with, for example, cerebral palsy may be very different in what they're able to do. Two individuals with a learning disability will almost certainly be different from each other.

You decide. What are the specific behavioral characteristics that describe what the disabled individual can -- and cannot -- do?

## "For what?"

Here's where you must describe your objectives, again as specifically as possible. How do you envision the computer helping the person with disabilities? What is he or she actually doing with it?

Once again, it's important to set aside the disability label. Focus instead on the goals you have in mind. Picture them. In what specific ways is the computer assisting? Is it providing a synthesized voice? Helping to sustain motivation in a learning situation? Controlling certain aspects of the environment? Serving as a challenging chess partner?

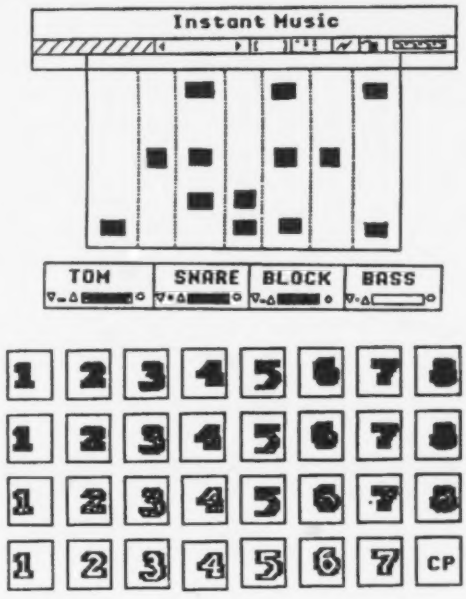
Asking the right questions is the key to getting a helpful response...

**Reprinted from: Apple Computer, Inc. (1989). *Connections: A guide to computer resources for children and adults with disabilities.* Cupertino, CA, p. 2.**

# Transforming the computer into a high-tech folk instrument

**By Nancy A. Norman, INNOTEK**

Technological innovations presents unique opportunities for children with special needs. Access to technology and an early start can mean future employment as well as increased independence--options not available to previous generations. It can also mean access to areas which were thought to be inaccessible for children with disabilities. Recent advances are transforming the computer into a hi-tech "folk instrument" providing new ways to participate in and learn about music. The Compuplay Music Project under development by the National Lekotek Center is exploring this musicial frontier and what it means for children with special needs.




**AFC OVERLAY: INSTANT DRUMS**

One of the more popular activities transforms the computer into a "drum machine" for composing rhythm patterns. The rhythm and different instrument sounds are represented by colored graphics to allow the child to visualize the music s/he is creating. Using the specially designed AFC set-up and overlay, the child selects a colored number which in turn commands the computer to place a rectangle of the same color at the beat number selected by the child. For example, if the child selects red #4, the computer automatically responds by placing a red rectangle in the fourth column on the screen, and a snare drum sounds on the 4th beat of the measure. This activity can be used to achieve several different learning outcomes such as listening skills, arithmetic facts, fine motor skill as well as for specific music skills. The instructional goal depends upon the needs of the child.

Currently, Compuplay Music consists of a demonstration project using Apple IIGS computers modified with Adaptive Firmware Card (AFC) and Unicorn Board. AFC set-ups, overlays, play activities and instructional methods have been developed for a number of commercially available software programs including "Instant Music" (Electronic Arts) and "Diversi-tune (DRS, Inc.). These instructional materials enable children with a range of special needs to gain access to a variety of musical experiences.

There are many reasons to integrate computers and music into the experiences of children with special needs. First, it provides a multisensory approach to cognitive and creative development. Many children enjoy music and respond to it. Next, music can serve to motivate children to learn, or to reinforce specific skills such as language arts or math. Finally, a computer can engage the children in an accessible microworld in which they can play and interact with music and explore their creative musicial expression. An added benefit of computer-based musical activities is the instructional flexibility they provide. Activities can be designed for group participation or require the use of social skills. Turn taking, cooperative and interpersonal communication can be reinforced while the children engage in musical play.

The Music Advisory Board for Compuplay Music believes that exploring music with computers can provide children the opportunity to develop cognitively and creatively in ways that are not possible by traditional means. For some children, musical intelligence may be normal or perhaps gifted, but musical expression is impaired due to factors which can be minimized or eliminated by computer use. Adapted music-making computers provide access to the interactive, multi-media experience necessary to explore music but also provides the means through which music can be expressed.

The creative use of music technology has the potential to unlock a world of learning and mediate a child's development in unique new ways. Through projects such as Compuplay Music, we are beginning to understand technology's far reaching implications for the development of the child with special needs.

### Software Design

Thoughtful software design can make an enormous difference for people with handicaps is a conclusion by Project EASI, Equal Access to Software for Instruction. The group is part of EDUCOM's Educational Uses of Information Technology committee which examines ways to use computer technology to help teach people with disabilities.

## Access Issues

Among the recommendations in a recently published brochure, Project EASI suggested:

Instructions for using the software should be on the program disk, in a form that allows them to be displayed in large type, printed in Braille, or made audible with a speech synthesizer.

Letter sizes should be adjustable for those whose vision is impaired.

The speed at which the computer expects user responses should be adjustable.

Software that uses color should allow adjustments for people who are color blind.

The beeps that indicate errors should be supplemented with visual signals for people whose hearing is impaired.

The speed with which the cursor blinks should be adjustable to accommodate people with seizure disorders.

Developers should incorporate "macros," the ability to save and repeat a series of commands, to make computing easier for those who find typing difficult.

For a free copy of the Project EASI brochure, contact: EDUCOM, 1112 16th Street N.W., Washington, DC 20036; 202/872-4200.

### Assistive Technology Design in Special Education

Assistive Technology Design in Special Education is a new publication of the ERIC/OSEP Special Project which examines the design principles and features of assistive devices. A number of design issues that are discussed in this publication, including: analyzing user needs, identifying a full range of decision-makers, enhancing accessibility and ease of use, and designing for flexibility. This guide also addresses important principles of technology transfer and design and performance standards.

To place an order, write: CEC Publication Sales, The Council for Exceptional Children, 1920 Association Drive, Reston, VA 22091. Cost: $5.00 for shipping and handling, prepaid

## Concerned about Accessible Housing?

If you are a person with a disability, or a family member, or a close friend of a person with a disability, your personal experience qualifies you to be part of the solution to accessible housing issues through participation in a nationwide Accessible Housing Design Advisory Network.

This network is being developed by the Center for Accessible Housing, a new national Research and Training Center at the School of Design at North Carolina State University in Raleigh, NC. The Center's focus is to improve the useability, availability, and affordability of housing and related products for people with disabilities.

Membership in the Accessible Housing Design Advisory Network is free and entirely voluntary. Members will receive copies of the Center's newsletter, and my be periodically contacted by its designers and researchers to solicit opinions, review ideas, and/or evaluate training programs, housing or product designs.

For more information or to receive a Network membership questionnaire, contact: The Research and Training Center for Accessible Housing, North Carolina State University, Box 8613, Raleigh, NC 27695; 919/737-3082.

### New Book Examines Job Accommodation and Technology

The Workplace Workbook: An Illustrated Guide to Job Accommodation and Assistive Technology by James Mueller, (1990) is designed to provide persons with disabilities, their supervisors, coworkers, counselors, therapists, doctors, and technology specialists with suggestions for accommodating people who have functional limitations.

The author suggests that any disability can be described as some combination of the seventeen functional limitations which are presented in this guide. The guide is extensively illustrated to communicate how specific accommodations might be used. For more information, contact: The National Easter Seal Society, Publications Dept., 5120 S. Hyde Park Blvd., Chicago, IL 60615; 312/667-8400.

# The National Unicorn User's Group

A National Unicorn User's Group has been formed to encourage the use of the Unicorn Keyboard and facilitate the sharing of teaching experiences, Unicorn setups, and overlays. This group has been formed in response to request from around the world for ways to facilitate sharing among professionals, parents, and individuals with disabilities. A $20 yearly membership fee provides members with newsletters, a Contribution Kit, and periodic Users' Kit listings.

The Communicorn newsletter is published six time a year and includes regular columns by Meg Mowry-Evans and Arjan Khalsa and Unicorners from around the country. The Contributions Kit is a set of materials which you will use if you wish to share your setups and overlays. By using a set of standards, your contributions are reviewed and grouped with others. Each grouping is called a Users' Kit and consists of several setups and overlays. Members receive periodic listings of available Users' Kits. If you contribute setups and overlays to the National Unicorn Users' Group, you are entitled to free Users' Kits.

For more information, contact: National Unicorn Users Group, 6331 Fairmount Avenue, Suite 332, El Cerrito, CA 94530; 415/528-0674.

## Unicorn Users Group Membership Form

Photocopy and Complete this Form

Name _____

Title _____

Institution _____

Address _____

Address _____

City, ST, Zip _____

Work Phone _____

Optional Data

Level of Experience (circle)

Beginner Int Advanced

Are you willing to be networked with people who ask for help by receiving their name and phone number? (circle) Y N

Home Phone _____

Computer Interface which you use: (circle) AFC PC Serial Aid Other _____

Send this form, along with a check for $20 (made payable to Unicorn Users Group), to:

The Unicorn Users Group
6331 Fairmount Avenue
Suite 332
El Cerrito, CA 94530

For information, call 415/528-0673

A model

# Adaptive Device Training &Trouble Shooting

*An Introduction to the Computer System* is a booklet which describes standard components and adaptations to accommodate special needs. Pages 4-5, reproduced here, illustrate the concise and functional design of the training materials. For more information, contact: Susan Mistrett, Project Director, Preschool Integration Through Technology Systems, 4635 Union Road, Buffalo, NY 14225; 716/633-4440.

TOUCH WINDOW
TROUBLE SHOOTING

**THE TOUCH WINDOW ISN'T WORKING.....**

Is the software program that you are using designed for the Touch Window?

If the program allows for more than one device for input, check the options menu to see if the program is set to work with the Touch Window.

Is the Touch Window plugged securely into the 9 pin game I/O port?

**STILL NOT WORKING.....**

Start the program over again and carefully calibrate the Touch Window.

Should the window be used as a laptop pad with an overlay for this software program?

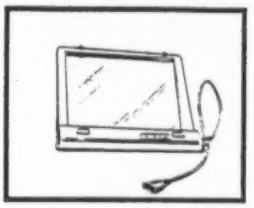
Check the documentation of the software program for directions for use.

**DESPERATE?**

Call _____ and ask for a staff member of the _____ project.

4

**NAME:** TOUCH WINDOW



**MANUFACTURER:** Edmark Corporation
P.O. Box 3903
Bellevue, WA 98009-3903
(206) 746-3900
(800) 426-0856

**DESCRIPTION:** The Touch Window is a touch sensitive pad or screen designed as an alternative to the standard keyboard. It attaches to the computer monitor with velcro strips. Users simply touch the screen to input information into the computer.

**REQUIRED SOFTWARE:** Only software designed for the Touch Window will work with this device.

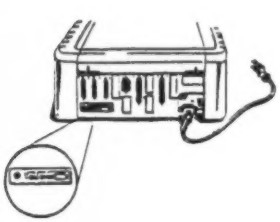
**CONNECTION:** This board easily plugs into the back of the microcomputer via the 9 pin game I/O port.

**COMPUTER:** Models are available for Apple and IBM computers.

**APPLICATIONS:** The Touch Window has numerous applications for young children with handicaps as it responds to the lightest touch of a finger or stylus and provides the most direct input.

**PHYSICAL ABILITY:** Only a very light touch is required to activate the Touch Window.

**PRICE:** Approximately $250.00 (Apple) and $300.00 (IBM).



CONNECTION:
1. Make sure the computer is off
2. Plug into the game port (9 pin connector)
3. Place software disk in the disk drive
4. Turn on the computer

DISCONNECTION:
1. Turn off the computer system
2. Wait 5 seconds or longer
3. Remove Touch Window from the monitor before you unplug the Touch Window from the computer

5

The Preschool Integration Through Technology Systems Project is funded by the U.S. Department of Education, Office of Special Education, Handicapped Children Early Education Programs, Grant #H024E80010.

## RESNA

The Technology-Related Assistance for Individuals with Disabilities Act is designed to assist states in developing and implementing a consumer-responsive state-wide program of technology-related assistance for individuals with disabilities. As part of the act, RESNA was designated as the technical assistance agent to assist and coordinate efforts among the funded states. For information on the provisions of the act as well as information about your state, contact: RESNA, Suite 700, 1101 Connecticut Avenue N.W., Washington, DC 20036; 202/857-1199.

## Funding

**Identifying funding sources and subsequently securing funds to implement assistive technologies continues to be a difficult process. While there are no easy answers to the funding dilemma, a variety of organizations and resources offer assistance and guidance on locating financial resources. The following information provides a brief resource list.**

## Reimbursing Adaptive Technology

"Reimbursing Adaptive Technology" is the feature article in the Winter 1989 issue of NARIC Quarterly (pp. 1, 7-11, 17). The article discusses the process for obtaining and reimbursing technologies by identifying and choosing a device, finding a way to pay for it, and writing the justification. To obtain a copy, contact: The National Rehabilitation Information Center, 8455 Colesville Road, Suite 935, Silver Spring, Maryland, 20910; 800/346-2742.

## Funding for Assistive Technology and Related Services: An Annotated Bibliography

An 18 page annotated bibliography of reports, books, and articles on funding issues, sources, and strategies related to assistive technology. Available by contacting: Alexander Enders, University of Montana, RTC Rural, 33 Corbin Hall, Missoula, MT 59812; 406/243-5481.

## Subsidy Programs for Assistive Devices

This paper examines several types of funding program for assistive devices. Available at no cost by contacting: The Electronic Industries Foundation Rehabilitation Center, 1901 Pennsylvania Ave. N.W., Suite 700, Washington, DC 20006; 202/955-5822.

## The Many Faces of Funding

*The Many Faces of Funding* by Ann Hoffman is a resource book and newsletter published by Phonic Ear (250 Camino Alto, Mill Valley, CA 94941). Available for $35.00 for the book and a one-year subscription to the newsletter. The newsletter is available separately for $5.00 per year.

## How to Obtain Funding...

*How to Obtain Funding for Augmentative Communication Devices* is a 24 page guide complete with sample forms. Available at no cost by contacting: Prentke Romich Company, 1022 Heyl Road, Wooster, OH 44691; 800/642-8255.

## Financing Adaptive Technology...

*Financing Adaptive Technology: A Guide to Sources and Strategies for Blind and Visually Impaired Users* is a 206 page guide written by S. Mendelsohn. Available for $20 by contacting: Smiling Interfaces, P.O. Box 2792, Church Street Station, New York, NY 10008.

## Journals

*Academic Computing* is published nine times a year and focuses on academic computing projects, news, and feature articles. For more information, contact: Academic Computing, 200 West Virginia, McKinney, TX 75069; 214/548-2101.

*Collegiate Microcomputer* is a quarterly journal devoted to microcomputer use in higher education and provides a forum for the exchange of ideas about the roles of personal computers in all aspects of campus life. For a sample copy and subscription information, contact: Collegiate Microcomputer, Rose-Hulman Institute of Technology, Terre Haute, IN 47803; 812/877-1511.

*Syllabus* is a bimonthly publication on the use of Macintosh computers in Higher Education. Subscriptions are free to faculty members, software developers, publishers, and other qualified professional in North America involved in the development, distribution, and integration of technology into higher education. For more information, contact: Syllabus, P.O. Box 2716, Sunnyvale, CA 94087; 408/773-0670.

*The Journal of Computing in Higher Education* publishes essays, reviews, reports, and research articles on instructional technology. For more information, contact: Paideia Publishers, P.O. Box 343, Ashfield, MA 01330.

## Technology Applications in Higher Education

College and university special education faculty are increasingly involved in efforts to integrate technology into teacher education programs. The information on this page describes journals, newsletters, and sources of software for higher education.

Interested readers should also note related articles regarding special education technology textbooks on page 16 and Project RETOOL on page 22.

## Newsletters

*TECH-NJ: Technology, Educators, and Children with Handicaps—New Jersey* is a publication of the Trenton State College Department of Special Education. Published one each semester, this 20 page newsletter contains a wealth of information and resources for integration technology into undergraduate courses. For more information, contact: Amy Dell, Department of Special Education, Trenton State College, CN 4700, Trenton, NJ 08650; 609/771-2308.

*Capturing the Potential: Technology Applications for Special Educators in Higher Education* is published four times a year by the Missouri Technology Center for Special Education. This four page newsletter examines topical issues relating to technology in special education. For more information, contact: The Missouri Technology Center for Special Education, University of Missouri—Kansas City, School of Education, Room 24, Kansas City, MO 64110; 816/235-1040.

## Sources of Software for Higher Education

CONDUIT
University of Iowa
Oakdale Campus
Iowa City, IA 52242
319/335-4100

EDUCOM
1112 16th Street N.W., Suite 1600
Washington, DC 20036
202/872-4200

ISSAC
University of Washington
Seattle, WA 98195
206/543-5604

National Collegiate Software Clearinghouse
Box 8101
North Carolina State University
Raleigh, NC 27695
919/737-3067

WISC-WARE
Academic Computing Center
Univ. of Wisconsin—Madison
1210 West Dayton Street
Madison, WI 53706
800/543-3201

STRATEGIES
SOFTWARE
TEACHING

Excerpts from *The Marketplace*, Volume 3 Number 2, Summer 1990

# Research Highlights on Technology Integration

***The Marketplace* is published by the Center for Special Education Technology for product providers, who develop and distribute technology products. This series of reports is designed to improve understanding about the market place for special education technology. For more information about the Center, see page 19.**

Center for Special Education Technology
A Project of the Council for Exceptional Children

Researchers examining technology integration for diverse and special learners in mainstream classes have fresh information about computer use in elementary, middle, and high schools and insights about computer adoption at different organizational levels, such as classrooms, schools, and school districts.

Information comes from Phase I findings (1986-1989) of three ongoing research contracts funded by the U.S. Department of Education, Office of Special Education Programs. In Phase II (1989-1991) contractors are developing separate models of technology integration based on their Phase I findings. They are Macro Systems, Inc., focusing on high school learners; Education Development Center (in collaboration with Technical Education Research Center during Phase I) examining middle school learning; and the Center for Technology and Human Disabilities at The Johns Hopkins University is looking at elementary school-age students.

Final project results and products are about two years away, but much of the data, collected from either primary research or substudies, already verifies popular attitudes about technology's benefits for special students. Moreover, it confirms some of the enabling factors that set the stage for educational technology to be integrated within mainstream education in meaningful ways.

**Integrating Technology at the High School Level**

Macro Systems' research is based upon work in suburban Howard County (MD) Public Schools that has eight high schools and experience with technology integration. The other district, Chittenden South Supervisory Union, in Vermont, has one high school serving five suburban and rural towns. It is currently examining the role technology can play within its system and has made significant investments in equipment and software.

The following are selected highlights from the Macro study:

*In Administration:*

Shared decisions: Often administrators make decisions, especially about equipment and training, without input from teachers who were found to have the best sense of their students' and their own needs.

Collaborative decision-making between regular and special educators needs to be improved.

Committee processes: School-based committees designed to deal with microcomputers appeared largely inactive. Principals and coordinators were found to make technology-related decisions independent of teaching staff.

Pre-service training: School officials need to be more assertive and tell higher educators that they expect teachers be given computer-related competencies during pre-service training programs.

*In Material Resources:*

Hardware selection and acquisition: School boards need to make access to technology their priority, while school district leaders need to develop long- term technology plans.

Hardware distribution and management: Both labs and classroom placement may be the appropriate distribution points, depending upon goals. Teachers, however, say they want lab settings that accommodate an entire class.

Software distribution and management: Frequently used software should be available for loan in each school. When software is very frequently used, it should be located in classrooms. District level libraries should house software used only occasionally.

For more information, contact Macro Systems, Inc., 8630 Fenton St., Silver Spring, MD 20910, 301/ 588-5484.

**Integrating Technology at the Middle School Level**

Researchers at the Education Development Center/Technical Education Research Centers (EDC/TERC) have concentrated their reseach work in four diverse middle schools located in inner city, suburban and small urban sites. They examined teacher practices that create successful, computer-supported learning experiences for special needs students. Their work also has considered the larger school and organizational context that sustains those practices. Some of their findings are briefly highlighted here.

*Teacher Development*

Teacher pairing for knowledge and reassurance, especially when novice users are involved, is consistently associated with successful technology integration into curriculum. Inservice workshops alone are not sufficient. Teachers best learn to integrate technology successfully through ongoing school-based support and structures for collaboration and communication.

*School-based Facilitation*

Administrative support, planned time for collaboration, and ongoing access to resources is critical to technology integration. Decisions about hardware purchase and allocation, as well as scheduling for use, should take into account curriculum goals and teacher competencies, rather than focus exclusively on issues of equity and access. Technology-related decisions must have someone committed and responsible for implementation. During the process, teachers and administrators must communicate and decide to keep on course or change plans. Administrators' expectations must be realistic and flexible allowing for teachers' individual differences with and decisions about technology use.

For more information, contact Education Development Center, Inc., 55 Chapel St., Newton, MA 02160, 617/969-7100.

**Integrating Technology at the Elementary School Level**

In connection with their larger project goal to devise a classroom-oriented model of integrating technology, researchers at Johns Hopkins University conducted several substudies related to instructional use of computers. Sixteen studies were conducted in 50 classrooms.

The following findings relating to curriculum correspondence come from four of those studies:

*Curriculum Correspondence*

Seventeen special education and 21 regular education teachers from 14 schools completed questionnaires. Project staff reviewed curriculum guides and individualized education programs to examine the match between currently available software and curriculum requirements or goals. To ascertain information about curriculum correspondence, they also reviewed the Minnesota Education Computer Consortium software and software descriptions from The Educational Software Sector.

Results showed that, with certain qualifications, the marketplace offers software for every critical curriculum unit in math, reading, and language arts. A major problem exists in that this software is not always available to teachers. Moreover, catalog descriptions often can be inadequate for making software selections. Programs cover a broad age or grade level, but all too often they do not include exercises (underline here) sufficiently specific to the needs of students with mild disabilities.

*Instructional Approaches and Applications*

In another substudy on teaching compound words, students whose teachers used specific procedures to introduce CAI had a better rate of correct responses and learned faster than students whose teacher used traditional instructional approaches. Researchers concluded that students with mild handicaps probably perform better on tutorial software programs when teachers link CAI with non-CAI instruction. Software, even if labeled "tutorial," is not sufficient on its own to teach students. Computer instruction, however, must be linked to traditional teaching using familiar materials, vocabulary, format, and teaching techniques.

Researchers from Johns Hopkins concluded that a brief instructional link between non-CAI and CAI activities had value. This conclusion corresponded with earlier, related studies.

For more information, contact the Center for Technology in Human Disabilities at The Johns Hopkins University, 2301 Argonne Drive, Baltimore, MD 21218, 301/ 554-3046.

# Locating Information About Software

**By Dave L. Edyburn, Vanderbilt University**

**Looking for new software? The following article describes seven types of printed software resources:**

1. **Comprehensive Resources**
2. **Focusing the Search to Find a Few Good Programs**
3. **Software Which Corresponds to the Curriculum**
4. **Special Needs Software**
5. **Sources of Public Domain Software**
6. **Periodicals Which Monitor New Software**
7. **Other Information Sources**

**Except where noted, all resources include software information for common microcomputers. Prices do not include shipping and handling.**

### 1. Comprehensive Resources

This type of resource provides a comprehensive reference of educational software. These sources provide detailed information on programs in all subject areas and grade levels.

*The Educational Software Selector (TESS). 1986-87* (3rd edition), $59.95 and *The 1988 Supplement*, $29.95. Available from: EPIE, P.O. Box 839, Water Mill, NY 11976; 516/283-4922

*Software for the Schools 1987-88, A Comprehensive Directory of Educational Software Grades Pre-K through 12*, $49.95. Available from: R.R. Bowker, P.O. Box 762, New York, NY 10011; 800/521-8110

### 2. Focusing the Search to Find a Few Good Programs

One of the drawbacks of a comprehensive software reference is that it quickly becomes apparent how many choices one may have. It is also difficult to ascertain the qualitative differences between so many programs. Hence, several reference tools have been developed to focus attention on a few high-quality programs.

*Only the Best 1991: The Annual Guide toHighest-Rated Educational Software Preschool-Grade 12*, $29.95. Available from: R.R. Bowker, P. O. Box 762, New York, N.Y. 10011; 800/521-8110. A cumulative edition, *Only the Best. The Cumulative Guide to the Highest Rated Educational Software, 1985-1989, Pre-School to Grade 12* is also available from R. R. Bowker for $49.95.

*1990 Survey of Early Childhood Software*, $19.95. Available from: High/Scope Press, 600 N. River St., Ypsilanti, MI 48198; 313/485-2000.

### 3. SoftwareWhich Corresponds to the Curriculum

Effective use of computers implies that software corresponds to the curriculum. By beginning with a specfic objective, the software search is focused, and the program ultimately selected will facilitate students' learning of the given objective.

*Apple Access Curriculum Software Guides*, $27.00 each. Available for: K-12 Science; K-6 Mathematics; 6-12 Mathematics; K-6 Reading, Writing, Language Arts; 6-12 Reading, Writing, Language Arts; and K-12 Social Studies. Available through local Apple Dealers.

*Apple Education Solution Guides* $24.00 each. Available for: English as a Second Language; Foreign Language; and Business Education. Available through local Apple Dealers.

*IBM Directory of Educational Objectives and Networkable Software for K through Eight in Language Arts, Reading and Math (June 1989).* Available for $10.75 throughauthorized IBM educational representatives.

*Macintosh Educational Software Guide 1990,* free. Available from: Apple Computer, Inc., 20525 Mariani Ave., Cupertino, CA 95014; 408/996-1010.

**4. Special Needs Software**

While the use of off-the-shelf software is desirable whenever possible, special software is often necessary for (a) teaching concepts not usually found in the mainstream curriculum (e.g., switch training, sign language); (b) taking advantage of adaptive equipment (e.g., switch, speech synthesizer); or (c) matching instruction with students' cognitive abilities. The following resources are useful in locating software designed specifically for special education.

*Closing the Gap 1990 Resource Directory,* $14.95. Available from: Closing the Gap, P.O. Box 68, Henderson, MN 56044; 612/248-3294

Apple Office of Special Education. (1990). *Apple Computer Resources in Special Education andRehabilitation.* $19.95. Available from: DLM , P. O. Box 4000, One DLM Park, Allen, TX 75002; 800/527-4747

*Trace Resource Book: Assistive Technologies for Communication, Control and Computer Access, 1989-90 Edition,* $49.00. Available from: Trace Research & Development Center on Communication, Control & Computer Acccess for Disabled Individuals, S-151 Waisman Center, University of Wisconsin-Madison, 1500 Highland Ave., Madison, WI 5370.

*The 1989-90 INNOTEK Software Resource Guide: A Guide for Selecting Software for Children with Special Needs.* $20.00. Available from: National Lekotek Center, 2100 Ridge Ave., Evanston, IL 60204; 708/328-0001.

**5. Sources of Public Domain Software**

Public Domain software is a good value for the price. While there is no shortage of sources of public domain software, considerable time and energy may be required to review and select programs which have educational value. The following vendors have an expressed interest in identifying and disseminating low cost educational software.

Apple Public Domain Software
CUE Softswap, P. O. Box 271704, Concord, CA 94527; 415/685-7289

IBM Public Domain Software
PC-SIG, Inc., 1030 E. Duane Avenue, Suite D, Sunnyvale, CA 94086; 800/245-6717

Macintosh Public Domain Software
EDUCORP, 531 Stevens Ave. #B, Solana Beach, CA 92075; 800/843-9497

Switch Access Public Domain Software
Colorado Easter Seal Society, 5755 West Alameda, Lakewood, CO 80226; 303/233-1666

**6. Periodicals Which Monitor New Software**

One inherent problem with software reference tools is that they are unable to monitor new software developments because of the production time involved in producing them. Some periodicals that special educators may find useful to regularly review to stay informed of new programs, updates, etc. include:

Apple II
*inCider*
*Apple II GS Buyers Guide*

IBM
*PC Computing*
*PC Magazine*

Macintosh
*Mac User*
*MacWorld*

General
*Classroom Computer Learning*
*Teaching and Computers*
*The Computing Teacher*

Special Education
*CONNSense Bulletin*
*Closing the Gap*

**7. Other Information Sources**

Colleagues, professional journals, computer user groups, and local computer stores are examples of the vast number of other resources which can provide information on software.

Finally, for those with access to telecommunications, Apple can be contacted via SpecialNet (user name APPLE.OSEP) or via AppleLink. IBM can also be contacted via SpecialNet (user name IBM.LINK) or by phone at the National Support Center for Persons with Disabilities (800/IBM-2133).

**Special Education Technology Texts**

# Key Information for Self-Directed Learning

Interested in learning more about the use of technology in special education? Simply browsing the bookshelves of a library or bookstore may leave teachers and parents with the impression that there is little information available.

While finding information on special education technology may be difficult at times, the literature in this area is growing. The following list identifies books which provide an introduction to special education technology. Collectively, these books form the basis of an excellent library on special education technology. However, readers are encouraged to consider the copyright date in relation to their information needs (e.g., the latest information on best practices vs. general background information).


Behrmann, M. (1984). *Handbook of microcomputers in special education.* Boston, MA: College-Hill Press.

Behrmann, M. (Ed.) (1988). *Integrating computers into the curriculum: A handbook for special educators.* Boston, MA: Little, Brown and Co.

Bowe, F.G. (1984). *Personal computers and special needs.* Berkeley, CA: Sybex.

Budoff, M., Thorman, J., & Gras, A. (1985). *Microcomputers in special education: An introduction to instructional applications* (2nd ed.). Cambridge, MA: BrooklineBooks.

Church, G. & Bender, M. (1989). *Teaching with computers: A curriculum for special educators.* Boston, MA: College Hill Press.

Goldenburg, E.P., Russell, S.J., & Carter, C.J. (1984). *Computers, education and special needs.* Menlo Park, CA: Addison-Wesley.

Hofmeister, A. (1984). *Microcomputer applications in the classroom.* NY: CBS College Publishing.

Johnson, D.L. (1987). *Computers in the special education classroom.* NY: Haworth Press.

Lindsey, J.D. (1987). *Computers and exceptional individuals.* Columbus, OH: Merrill.

Male, M. (1988). *Special magic: Computers, classroom strategies, and exceptional children.* Mountain View, CA: Mayfield.

Russell, S.J., Corwin, R., Mokros, J.R. & Kapisovsky, P.M. (1989). *Beyond drill and practice: Expanding the computer mainstream.* Reston, VA: Council for Exceptional Children.

# RESOURCES

## NEW CENTER PRODUCTS

Two directories of data sources are now available from the Center for Special Education Technology. Just issued, the *Directory of Software Data Sources* contains an annotated listing of nineteen existing databases, both online and print, of commercial and public domain software. It also lists resources for software reviews. A companion directory, the *Directory of Assistive Technology Data Sources* contains an annotated listing of databases for hardware. Fourteen databases are cited.

The popular state and topical technology *Resource Inventories* have all been updated over the summer. State Resource Inventories include information about public and private agenices and organizations that offer technology-related services in each state. Topical Resource Inventories list resources thorughout the country that focus on a particular specialty. Topical Resource Inventories are now available on the following topics: Early Childhood, P.L. 100-407 Tech Grant recipients, Visually Impaired, Assistive Devices, Augmentative Communication, Alliance for Technology Access sites, National Information Service Providers, Rehabilitation Engineering Centers and Product Availability.

Four new titles have been added to the Center's Tech Use Guide series. The *Mildly Handicapped Tech Use Guide* is aimed at the technology using teacher and provides information on telecommunication and interactive videodiscs. *Computers and Cooperative Learning Tech Use Guide* describes models of cooperative learning and how the computer can enhance these models. *Augmentative Communication Tech Use Guide* describes low tech and high tech approaches to augmentative and alternative communication, as well as information on assessment and intervention. The *Speech Technology Tech Use Guide* provides good basic information on speech synthesis and speech recognition. Each Guide includes lists of products, resources, and readings for further reference.

To receive a copy of any of these free Center products, contact the Center for Special Education Technology, CEC, 1920 Association Drive, Reston, VA 22091; 800/873-8255, SpecialNet ID - TECH.CENTER

Center for Special Education Technology

A Project of the Council for Exceptional Children

## More About the Center

As a regular reader of the TAM newsletter, you are familiar with the Center's efforts to provide information about the use of special education technology to practitioners, primarily through Center general information products such as the Tech Use Guides, the Resource Inventories, and the electronic newsletter TECH.LINE on SpecialNet.

The Center also provides a range of products and services to others audiences concerned with education and technology. We'd like you to know more about the Center and the varied services we provide.

The majority of the Center's efforts are devoted to in-depth coverage of selected topics or "themes." Current theme activities are underway to address information needs in the following areas: assistive technology, funding of technology programs and products, technology training in special education, technology applications for moderately handicapped students, and the integration of technology in special education instruction and program development. Activities within each theme are geared to filling information gaps and linking the latest research, practice, and products with appropriate audiences.

# The Alliance for Technology Access

Officially begun in April 1987, The Alliance for Technology Access (formerly the National Special Education Alliance) now boasts 43 centers in 32 states (see list; alphabetized by state). All Alliance centers are nonprofit, collaborative organizations seeking to provide people of every age with any disability easy access to important technological tools.

The Alliance has always stood first for a belief in the collaborative model of parents, consumers, professionals, and technology vendors sharing in the governance of technology access organizations as peers. The people who form the Alliance are extremely familiar with both physical barriers and systemic barriers and work daily to build the bridges which support full access to technology. Centers continue to grow providing increased service to their communities through outreach and a host of activities on a daily basis.

*43 centers in 32 states*

## ATA Centers

Independent Living Center, 3421 5th Ave. South, Birmingham, AL 3522; 205/251-2223, Judy Roy, AppleLink: BILC

Technology Assistance for Special Consumers, 2939 Johnson Rd. SW, Huntsville, AL 35805, 205/880-0671, Pamela Harnden, AppleLink: TASC

Alaska Center for Adaptive Technology, P.O. Box 6069, Sitka, AK 99835; 907/747-6960, Bruce Anderson, AppleLink: ACAT

Technology Resource Center, Box 5148, c/o Arkansas Easter Seal Society, 2801 Lee Avenue, Little Rock, AR 72225; 501/663-8331, Ginny Helple, AppleLink: TRC

Disabled Children's Computer Group, 2095 Rose Street, 1st Floor Berkeley, CA 94709; 415/841-3224, Lisa Wahl, AppleLink: DCCG

Team of Advocates for Special Kids, 18685 Santa Ynez, Fountain Valley, CA 92708; 714/962-6332, Lane Cole, AppleLink: TASK

Special Technology Center, 100 View Street, Suite 108, Mountain View, CA 94041; 415/961-6789, Lisa Cohn, AppleLink: STC

Computer Access Center, 2425 16th Street, Room 23, Santa Monica, CA 90405; 213/450-8827, Donna Dutton, AppleLink: CAC.SM

Special Awareness Computer Center Rehabilitation Center, 2975 North Sycamore Drive, Simi Valley, CA 93065 ; 805/582-1881, Suzanne Felt, AppleLink: SACC

AccessAbility Resource Center, 1056 East 19th Avenue, Denver, CO 80218; 303/861-6250; Ann Grady, AppleLink: AARC

Computer CITE, 215 E. New Hampshire, Orlando, FL 32804; 407/299-5000 x3291, Carol Adams, AppleLink: CITE

TechAble, 1040 Irwin Bridge Rd., Conyers, GA 30207; 404/922-6768, Lynn Chiu, AppleLink: TECHABLE

Aloha Special Technology Access Center, P.O. Box 27605, 669 Ahua Street, Honolulu, HI 96819; 808/834-4092, Ruth Akiona, AppleLink: ALOHAS-TAC

Technical Aids & Assistance for the Disabled Center, 1950 West Roosevelt, Chicago, IL 60608; 312/421-3373, Margaret Pfrommer, AppleLink: TAAD

Northern Illinois Center for Adaptive Technology, 3615 Louisiana Road, Rockford, IL 61108; 815/229-2163, David Grass, AppleLink: ILCAT

READI, P.O. Box 523, Marion, IA 52302; 319/377-1771, Doug Patterson, AppleLink: READI

Technology Resources for Special People, 3023 Canterbury, Salina, KS 67401; 913/827-0301, Marjorie Hargis-Delker, AppleLink: TRSP

SpecialLink, 36 W. 5th Street, Covington, KY 41011; 606/491-2464, Walter & Elaine Hackett, AppleLink: SPECIALINK

Blue Grass Technology Center for People with Disabilities, 898 Georgetown Street, Lexington, KY 40505; 606/233-1483, Jean Isaacs, AppleLink: BLUEGRASS

Disabled Citizens Computer Center, Louisville Free Public Library, 4th and York Streets, Louisville, KY 40203; 502/561-8637, Mary Ellen Harned, AppleLink: DCCC

CATER-Center for Adaptive Technology and Education, 1636 Tolendano Street, Suite 311, New Orleans, LA 70115; 504/899-8375, Kay Hickey, AppleLink: CATER

Massachusetts Special Technology Access Center, 1/6 Mudge Way, Town Center, Bedford, MA 01730; 617/275-2446, Paul Giguere, AppleLink: MASTAC

Living & Learning Resource Centre Physically Impaired Association of Michigan, 601 W. Maple Street, Lansing, MI 48906; 517/487-0883 or 800/833-1996 (MI only), Donna Heiner, AppleLink: LLRCPIAM

PACER Center, Inc., 4826 Chicago Avenue South, Minneapolis MN 55417; 612/827-2966(voice or TDD), Judy Simon, AppleLink: PACER.CTR

Computer Resource Center, St. Louis Easter Seal Society, 5025 Northrup , St. Louis MO 63110; 314/776-1996, Nancy Lacey, AppleLink: UKNES

Parents, Let's Unite for Kids, 1500 N. 30th Street, Billings, MT 59101; 406/657-2055, Katharin Kelker, AppleLink: PLUK

Computer Center for People with disAbilities, c/o Family Resource Associates, Inc., 35 Haddon Avenue, Shrewsbury, NJ 07702; 201/747-5310, Joanne Castellano, AppleLink: CCDA

Nevada Technology Center, 2880 East Flamingo Rd., Suite A, Las Vegas, NV 89121; 702/735-2922, Bruce McAnnany, AppleLink: NTC

Techspress Resource Center for Independent Living, 401 Columbia Street, Utica, NY 13502; 315/797-4642 (voice or TDD), Russ Holland, AppleLink: TECHSPRESS

Carolina Computer Access Center, Metro School, 700 East 2nd Street, Charlotte, NC 28202; 704/342-3004, Judy Timms, AppleLink: CCAC

Pathfinder Parent Training and Information Center, ATA Computer Resource Center, 1600 2nd Ave. SW, Minot, ND 58701; 701/852-9426; Kathryn Erickson, AppleLink: PATHFINDER

Communication Assistance Resource Service, 3201 Marshall Road, Dayton OH 45429; 513/294-8086, Pat Cashdollar / Terry Trzaska, AppleLink: CARS

**Continued on page 20**

# IBM Community Service Organizations

Three years ago, IBM announced the "IBM Offering for Persons with Disabilities." This program, in association with participating Community Service Organizations (CSOs) who are active in providing technology solutions for persons with disabilities, provides IBM solutions at a 33 to 55% discount to eligible individuals.

Originally, select Easter Seal and United Cerebral Palsy locations participated in the program. In 1989, a major expansion increased the number of participating locations. Several Independent regional facilities were added to the Easter Seal and UCP locations, and now there are thirty participating CSO sites.

The CSO locations verify a person's eligibility for the offering and provide general assistance, including technical advice and guidance in the set-up of the equipment. They help the applicant complete the Agreement for the Offering, advise about warranty options and generally offer telephone support after initial training.

The following list of participating CSOs will assist you in locating a nearby location. For additional information, contact the National Easter Seal Office in Chicago (see list; alphabetized by state).

UCPA of Birmingham, Dr. Gary Edwards, 2430 11th Ave. North, Birmingham, AL 35234; 205/251-0165

Arkansas Easter Seal Society, Ms. Nancy Dunn, 2801 Lee Ave., Little Rock, AR 72225; 501/663-8331

Rancho Los Amigos Medical Center, Mr. Kevin Caves, Applied Rehabilitation Technology, 7601 E. Imperial Highway, Downey, CA 90242; 213/940-6800

UCPA of San Diego County (North), Ms. Mary Krieger, 750 N. Citracado Pkwy. Suite D, Escondido, CA 92025; 619/743-1050

UCPA of San Diego County, Ms. Joy Cole, 3821 Calle Fortunada, Suite C, San Diego, CA 92123; 619/571-7803

Rose Medical Center, Ms. Karen Mergendahl, Rehabilitation Department, 4567 East 9th Ave., Denver, CO 80220; 303/320-2140

Colorado Easter Seal Society, Mr. David Schmitt, 5755 West Alameda, Lakewood, CO 80226; 303/233-1666

**Continued on page 20**

# What's New from IBM's National Support Center for Persons with Disabilities?

### Information: Products, Vendors, Support Groups

IBM's National Support Center for Persons with Disabilities was established to serve as a clearinghouse of information about adaptive devices, products, software, and support groups which are available to help persons with disabilities use an IBM computer.

Five resource guides have been developed from a database containing more than 850 products, 500 vendors, and 850 support groups. A guide is available for impairments which affect vision, speech or language, hearing, mobility, and learning.

### Special Products for Special Needs

Within the past two years, IBM has developed three specific products for individuals with special needs. They are the Independence Series of Products: the IBM Screen Reader, the IBM Personal System/2 Speechviewer, and the IBM Phone Communicator. Videotapes of these three Independence Series products are available from the National Support Center.

The National Support Center has been active in supporting special education efforts, and this year IBM's special education mission was organized under the National Support Center. Programs are being initiated to work closely with Learning Initiatives International, a IBM Education User Group, to share information and to provide success stories. Efforts are underway to document the capabilities of IBM courseware for special education populations.

For more information, regarding: Resource Guides, the Independence Series, or IBM's discount offering for persons with disabilities, contact:

The National Support Center for Persons with Disabilities, P.O. Box 2150, Atlanta, GA 30301-2150
800/426-2133 (voice)
800/284-9482 (TDD)

# Community

**From page 19**

Easter Seal Rehab Center of SW Connecticut, Ms. Debra Nemchek, 26 Palmer's Hill Rd., Stamford, CT 06902; 203/325-1544

United Cerebral Palsy Association National Office, Mr. Jim Hollahan, 1522 K St. NW, Suite 1112, Washington, DC 20005; 202/842-1266, 800/872-5827

Atlanta Easter Seal Society, Ms. Beth Yager, 3035 N. Druid Hills Road, Atlanta, GA 30329; 404/633-9609

Easter Seal Society National Office, Dr. William Salyers, 5120 S. Hyde Park Blvd., Suite 100, Chicago, IL 60615; 312/667-8400

UCPA Land of Lincoln, Ms. Brenda Yarnell, 130 North 16th St., Springfield, IL 62703; 217/525-6522

Central Indiana Easter Seal Society, Mr. Tom Blackman, Crossroads Rehabilitation Center, 3242 Sutherland Ave., Indianapolis, IN 46205; 317/924-3251

Cerebral Palsy Research Foundation of Kansas, Ms. Leah Ross, 2021 North Old Manor, Wichita, KS 67208; 316/688-1888

Massachusetts Easter Seal Society, Ms. Nancy Kellogg, 484 Main St. —6th Floor, Worcester, MA 01608; 508/757-2756, 800/922-8290

Courage Center, Mr. Denis Meyer, 3915 Golden Valley Road, Golden Valley, MN 55422; 612/520-0566

Missouri Easter Seal Society, Ms. Sue Uknes, 5025 Northrup, St. Louis, MO 63110; 313/776-1996, 800/888-2142

UCPA of New Jersey, Ms. Willie Gunther, 354 South Borad St., Trenton, NJ 08608; 609/392-4004

UCP of Capital District, Ms. Helen Lasher, Center for Disabled, 314 S. Manning Blvd., Albany, NY 12208; 518/489-8336

Human Resources Center, Ms. Francine Tishman, 2011 I.U. Willets Rd. West, Albertson, NY 11507; 516/747-5400

UCPA of New York City, Mr. Frank Hardeman, 120 East 23rd St. — 5th Floor, New York, NY 10010; 212/979-9700 ext. 263

UCP of Nassau County, Ms. Rose Nuzzi, 380 Washington Ave., Roosevelt, NY 11575; 516/378-2000

UCPA pf Syracuse - "Enable," Ms. Carol Tytler, 1603 Court St., Syracuse, NY 13208; 315/455-7591

UCP of the Capital Area, Ms. Janet Armstrong, 925 Linda Lane, Camp Hill, PA 17011; 717/737-3477

HandiSoft Inc., Ms. Jean Anderson, Center for Information Resources, 3025 Walnut St., Philadelphia, PA 19104; 215/898-8108

Easter Seal Society of Rhode Island, Mr. Dick Lytton, Meeting Street School, 667 Waterman Ave., East Providence, RI 02914; 401/438-9500

Tarrant County Easter Seal Society, Ms. Molly Shannon, 617 Seventh Ave., Forth Worth, TX 76104; 817/336-8693

Utah Easter Seal Society, Ms. Leslie Heywood, 331 S. Rio Grande St. — Suite 206, Salt Lake City, UT 84101; 801/531-0522

Easter Seal Society of Virginia, Mr. Jeff White, 4841 Williamson Road, P.O. Box 5496, Roanoke, VA 24012; 703/362-1656, 800/365-1656

UCP of Vermont, Ms. Lee Viets, 32 Main St. —Room 402, Montpelier, VT 05602; 802/223-5161

# Alliance

**From page 18**

Developmental Disabilities Resources, Inc., 4641 S. Braden, Suite 113, Tulsa OK 74135; 918/664-5257, D.J. Estes, AppleLink: X2045

Oregon Outback Technology Access Center, Union ESD, 10100 N. McAlister Road, Island City OR 97850; 503/963-4106, Julie Farnam, AppleLink: OUTBACK

Computer and Technology Services, 3241 NE 21st Avenue, Portland OR 97212; 503/246-8551, Sally Mooneyham, AppleLink: CATS.OR

Technology Resources for People with Disabilities, c/o Kencrest Services, One Plymouth Meeting, Plymouth Meeting, PA 19462, David Landsman, AppleLink: TRPD

West Tenn. Special Tech. Resource Center, P.O. Box 3683, Lambuth College, Carney Johnson Hall, 401 Maple Street, Jackson TN 38303; 901/424-9089, Margaret Doumitt, AppleLink: WESTTN

East Tennessee Special Technology Access Center, Inc., UT, Room 106-A, Knoxville, TN 37996-3400; 615/584-4465, Lois Symington, AppleLink: EASTTN

Technology Access Center, UCP of Middle Tennessee, Fountain Square, Suite 110, 2214 Metro Center Blvd., Nashville TN 37228; 615/248-6733, Bob Kibler, AppleLink: TAC

SHIP University United Methodist Church, 5084 DeZavala Road, San Antonio, TX 78249; 512/696-1033, Dee Dee Sedgewick, AppleLink: SHIP

Computer Center for Citizens with Disabilities, Primary Children's Medical Center, 320 Twelfth Avenue, Salt Lake City, UT 84103; 801/521-1624, Craig Boogaard, AppleLink: CCCD

Seattle Technology Alliance for Resources and Training, 257 100th Avenue NE, Bellevue, WA 98004; 206/637-9848, Grant Lord, AppleLink: START

Project G.L.U.E., c/o Children's Therapy Clinic, 2345 Chesterfield Avenue, Charleston, WV 25304, Margaret McGarrity, AppleLink: GLUE

# ERIC/OSEP Research Directories Available

The ERIC/OSEP Special Project has recently published a new series of directories of ongoing research funded by the Division of Innovation and Development, Office of Special Education Programs, U.S. Department of Education.

"Technology" is one of 14 topical directories which provides basic information about research projects dealing with technology. The information in this directory is taken directly from OSEP's in-house database of research grants. The projects in this database include the field-initiated and student-initiated grants, most of the directed competitions, and the secondary transition, and technology grants. Each project entry includes: project title; principal investigator; contact information; beginning and ending date; project identification information; and descriptions of the purpose, method, and anticipated outcomes.

The directories are available from CEC for a shipping and handling fee of $5.00, prepaid. To place an order, write: CEC Publication Sales, The Council for Exceptional Children, 1920 Association Drive, Reston, VA 22091.

**An Excerpt: CFDA 84.180P - Compensatory Technology Applications**

Overview: The purpose of this priority was to support the innovative adaptation and use of hardware and/or software prototypes that would compensate for physical, sensory, or cognitive learning impairments. The projects supported under this priority developed prototypes using existing technology and capitalizing on technological advances. The prototypes were designed to alleviate the need to modify instructional materials and/or increase the overall accessibility to educational environments for students with handicaps. Each project evaluated the protype to determine whether the engineering and design were sound, whether it compensated for the disability, and whether it was feasible to operate and maintain in a school setting.

**Voice-Operated Drawing Program**, Principal Investigator: Louise Appell, Macro Systems, Inc.

**Assisting Disabled to Access Personalized Technology—Professional Consultant**, Principal Investigator: Michael M. Behrmann, George Mason University

**Project: Info Net**, Principal Investigator: David Beukelman & Christy Horn, University of Nebraska

**Sound-to-Speech Translations Utilizing Graphics Mediation Interface for Students with Severe Handicaps,** Principal Investigator: Carrie Brown, Association for Retarded Citizens

**Use of an Interactive Videodisc and Associated Instructional Materials to Teach Phrases in Signed English to Deaf Individuals and their Hearing Associates**, Principal Investigator: Cass Gentry, Michigan State University

**Student Assistant for Learning from Text (SALT): A Computer-Based Reading Aide for LD Students,** Principal Investigator: Jacqueline Haynes, Intelligent Automation, Inc.

**Computer-Assisted Instruction for Severely Handicapped Persons: A Program Based on Stimulus Control Research Modifying Current Software and Hardware**, Principal Investigator: Kathy Karsh, Educational Research and Service Center

**Tools for Enhancing Learning,** Principal Investigator: Charles Kinzer & Ted Hasselbring, George Peabody College, Vanderbilt University

**Using Artificial Intelligence to Teach English to Deaf People**, Principal Investigator: Donald J. Loritz, Georgetown University

**Interactive Computer Graphic/Text Communication,** Principal Investigator: Susan Rose, University of Minnesota

**Technology for English Communication Skills for the Deaf,** Principal Investigator: David Rubin, New Technology Research Center

**Development of an Integrated Software System for Graphics Based Computer System for People with Blindness,** Principal Investigator: Gregg Vanderheiden, University of Wisconsin

# Project RETOOL:

## Integrating Special Education Technology into the Higher Education Curriculum

Project RETOOL is a three-year training project funded by the U.S. Department of Special Education and Rehabilitative Services and operated by The Council for Exceptional Children (CEC) and its Teacher Education Division (TED). The project offers teacher educators an opportunity to gain knowledge and practical experience in the skills and materials needed to effectively use technology as a professional productivity tool and to incorporate technology into special education personnel preparation programs.

## 1990-91 Workshops

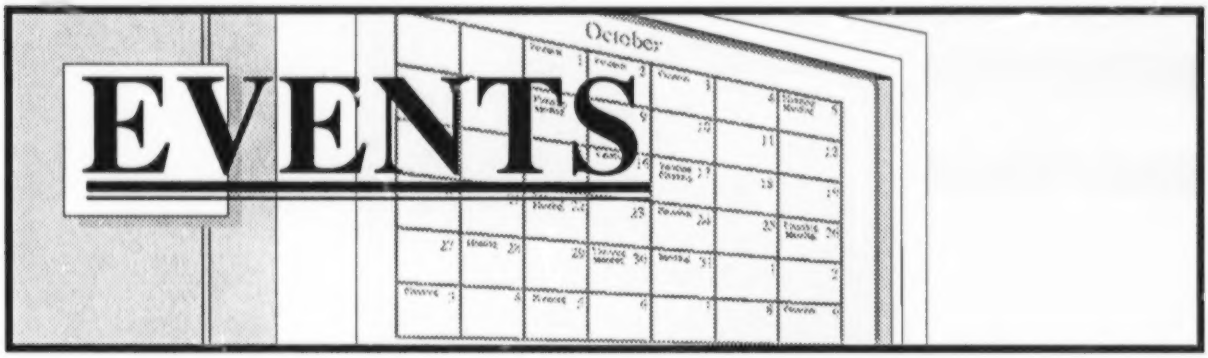
**Integrating Technology Into the School Curriculum (Elementary, Intermediate, Secondary)**
February 14-16, 1991
Florida Atlantic University
Boca Raton
Host: Jeff Schilit

**Technology as a Research Tool**
March 28-30, 1991
University of Georgia
Athens
Host: John Langone

**Roundtable on Special Education Technology in the Higher Education Curriculum**
May 30-June 1, 1991
Teachers College, Columbia University
New York
Host: Jeannette Fleischner

Please look for the Project RETOOL brochure to be published soon, containing the workshop registration form and specific information concerning these events.

**The Council for Exceptional Children, 1920 Association Drive, Reston, VA 22091-1589; 703/620-3660**




# Technology Conferences: Nov 90 - July 91

**November 14-15, 1990**
Fifth Annual Minspeak Conference, Seattle, WA. Contact: Verna Horvath, Prentke Romich company, 1022 Heyl Road, Wooster, OH 44691; 800/262-1984, ext 251.

**November 16-19, 1990**
ASHA Annual Convention, Seattle, WA. Contact: Frances Johnston, ASHA, 10801 Rockville Pike, Rockville, MD 20852; 301/897-5700.

**November 18-20, 1990**
Minnesota Educational Computing Consortium, Minneapolis, MN. Contact: Dawn Smesrud, 3490 Lexington Avenue, North, St. Paul, MN 55126; 612/481-3529.

**December 4-6, 1990**
8th Annual Conference on Computers in Education, Montreal, Canada. Contact: GEMS - Computers in Education '90, 4260 Girouard, Suite 100, Montreal, Qc, Canada H4A 3C9; 514/485-0855.

**January 17-19, 1991**
1991 TAM International Conference on Special Education and Technology, Kansas City, MO. Contact: Florence M. Taber, Indiana Computer Project, 833 E. Northside, Bldg. 1, West Door, South Bend, IN 46617; 219/234-0260.

**January 31 - February 2, 1991**
Technology and Reading/Learning Difficulties, San Francisco, CA. Contact: Diane Frost, Educational Computer Conference, 1070 Crows Nest Way, Richmond, CA 94803; 415/222-1249

**February 13-17, 1991**
1991 AECT National Convention, Orlando, FL. Contact: AECT '91 Convention Office, 1025 Vermont Avenue, NW, Suite 820, Washington, DC 20005; 202/347-7834.

**February 14-16, 1991**
INFOCOMM International, Orlando, FL. Contact: Jennifer Allen, 3150 Spring Street, Fairfax, VA 22031; 703/273-7200.

**February 28-March 1, 1991**
Classroom Computing 1990s: Possibilities and Successes, Oshkosh, WI. Contact: Sue Neitzel, Koehn Institute, UW Oshkosh, Oshkosh, WI 54901; 414/424-2367.

**March 8-10, 1991**
Advancing the National Education Goals: The Role of Technology, San Franscico, CA. Contact: National Education Association, 1201 16th St., N.W., Washington, D.C. 20036; 202/833-4000.

**March 11-13, 1991**
1991 Midwest Education and Technology Conference, St. Louis, MO. Contact: Regional Consortium for Education and Technology, 13480 South Outer Forty Road, Suite 101, Chesterfield, MO 63017; 314/851-0085.

**March 14-15, 1991**
ACTT II: Technology Conference, Macomb, IL. Contact: Macomb Projects, Western Illinois University, 27 Horrabin Hall, Macomb, IL 61455; 309/298-1634.

**March 20-23, 1991**
Technology and Persons with Disabilities, Los Angeles, CA. Contact: Dr. Harry J. Murphy, Office of Disabled Student Services, California State University, Northridge, 18111 Nordhoff Street - DVSS, Northridge, CA 91330; 818/885-2578.

**April 1-5, 1991**
CEC 69TH Annual Convention, Atlanta, GA. Contact: CEC, 1920 Association Drive, Reston, VA 22091; 703/620-3660.

**April 10-12, 1991**
Touch the Future: Third Southeast Regional Conference Discovering Abilities Through Technology for Living, Learning, Working, and Playing, Atlanta, GA: Contact: Carolyn W. Watkins, 2361-C Henry Clower Blvd., Snellville, GA 30278; 404/979-2027.

**April 16-17, 1991**
EXPO 91/Access to the Marketplace, New York City, NY. Contact: Joyce Gersten, Expo '91, 408 Jay Street, Room 401, Brooklyn, NY 11201; 718/230-3200.

**April 18-20, 1991**
Technology and Reading/Learning Difficulties, New York City, NY. Contact: Diane Frost, Educational Computer Conference, 1070 Crows Nest Way, Richmond, CA 94803, 415/222-1249.

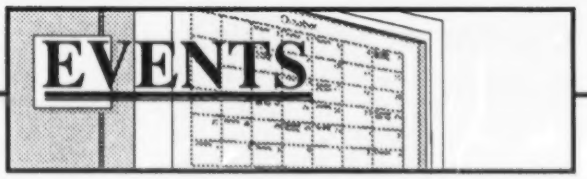
**May 4-7, 1991**
6th Annual National Symposium on Information Technology, Myrtle Beach, SC. Contact: Donna Lesser, Center for Developmental Disabilities, The University of South Carolina, Columbia, SC 29208; 803/777-4435.

**May 6-9, 1991**
The Nebrasksa Interactice Media Symposium, Lincoln, NE. Contact: Videodisc Design/Production Group, 1800 North 33rd Street, Lincoln, NE 68583; 402/472-3611.

**June 18-20, 1991**
Solutions, Solutions, Solutions: National Educational Computing Conference '91, Phoenix, AZ. Contact: Gary G. Bitter and Mary M. Hatfield, Arizona State University, AMF-Community Services Center, Tempe, AZ 85287-0908; 602/965-7363.

**June 21-26, 1991**
RESNA 14TH Annual Conference, Kansas City, MO. Contact: Susan Leone, RESNA, Suite 700, 1011 Connecticut Avenue, NW, Washington, DC 22036; 202/857-1199.

**July 10-12, 1991**
CONNSENSE '91 Storrs, CT. Contact: Chauncy N. Rucker, University of Connecticut, Special Education Technology Lab, 249 Glenbrook Road, U-64, Storrs, CT 06269; 203/486-0165.




# Call for Participation

## THE TECHNOLOGY & MEDIA (TAM) DIVISION OF THE COUNCIL FOR EXCEPTIONAL CHILDREN (CEC) INVITES PROPOSALS FOR THE 6TH ANNUAL INTERNATIONAL TAM CONFERENCE ON SPECIAL EDUCATION AND TECHNOLOGY

**January 9-11, 1992**
**Albuquerque, New Mexico**
**Deadline for Proposals: May 17, 1991**

Cindy Okolo, Program Chairperson, and the members of the Program Advisory Committee are pleased to invite proposals for sessions at the 6th Annual Conference on Special Education and Technology. The conference will be held January 9 - 11, 1992, in Albuquerque, New Mexico.

**Proposal Topics**

This conference will address a broad range of topics on the use of technology with individuals who have special needs. Special consideration will be given to proposals that address: empirically-validated uses of technology; new or innovative uses of technology for individuals with disabilities; applications for rural or sparsely populated areas; applications for preschool or adult populations; personnel development applications; models for the integration of technology; and emerging technologies. Strands will be developed for novice, intermediate and advanced technology users .

**Selection Process**

The Program Chairperson, in conjunction with the Program Advisory Committee, is responsible for selecting all papers and programs presented. The selection criteria may include any or all of the following: relevance to conference themes; innovation, clarity and organization; and estimated audience appeal.

**Proposal Format**

For full consideration, all proposals should follow the prescribed format which includes:

a) a proposal information sheet (on the next page),
b) a 250-word description of the presentation, and
c) a 25-40 word abstract.

Send three copies of the proposal form, description, and abstract to Dr. Cynthia M. Okolo, Educational Studies, Willard Hall, Rm. 213, University of Delaware, Newark, DE 19716; 302/451-8695. Be certain to retain a copy of the proposal for your records. Materials submitted to TAM cannot be returned.

**Presentation Format**

Presentations may be proposed in several formats. Please be sure to carefully review the descriptions listed below and select the most appropriate format for your presentation.

- *Regular Session:*
One hour. Presentation may be research, lecture, panel, demonstration, or other appropriate style.

- *Poster Session:*
One hour. Appropriate for informal report on research, demonstration, models, etc. Only display tables and easels will be available.

- *Skill Training Session:*
Approximately three hours. Designed for instruction of participants in specific skills relating to technology, i.e., specific program, application, etc.

- *Full-Day Intensive Workshop:*
One full day in length. These sessions should constitute intensive training on a particular subject.

# EVENTS

## 6TH ANNUAL INTERNATIONAL TAM CONFERENCE ON SPECIAL EDUCATION AND TECHNOLOGY

Albuquerque, 1992 — The Council for Exceptional Children
Technology and Media Division

Proposal Information Sheet
Please Print or Type

January 9-11, 1992

**Presentation Title:** _____

**Presenter:** _____

**Title:** _____

**Institutition/Company:** _____

**Address:** _____

**City:** _____ **State:** _____ **Zip:** _____

**Office Phone:** _____ **Home Phone:** _____

**(list additional presenters, affiliations and topics on additional page)**

**In each box, check the best descriptor for your presentation.**

**Type of Presentation:**

____ Research
____ Panel
____ Demonstration
____ Poster
____ Lecture
____ Skill Training (3 hrs.)
____ Intensive Full Day Workshop
____ Other
_____

**Technology Area:**

____ Instruction
____ Administration
____ Rehabilitation
____ Assessment
____ Research
____ Hardware and/or software development
____ Training
____ Other
_____

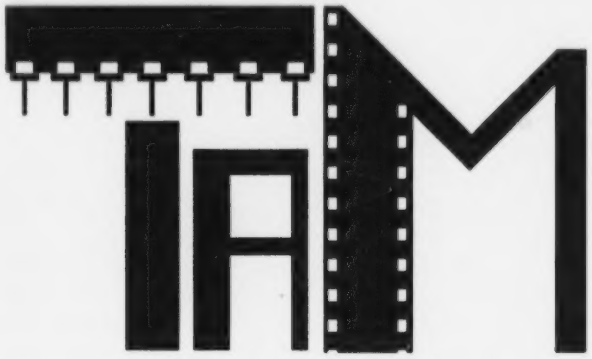
**Areas of Exceptionality:**

____ Developmental Disabilities
____ Multiple Handicaps
____ Communication Disorders
____ Behavior Disorders
____ Mental Retardation
____ Gifted and Talented
____ Hearing Impairments
____ Visual Impairments
____ Orthopedic Impairments
____ Learning Disabilities
____ All Exceptionalities
____ Other
_____

**Anticipated Level of Audience Sophistication:**

____ Beginning
____ Intermediate
____ Advanced
____ Other

**Please send three copies of this form, a 250 word description of the presentation, and a 25-40 word abstract by May 17, 1991 to Dr. Cynthia M. Okolo, Educational Studies, Willard Hall, Room 213, University of Delaware, Newark, DE 19716; 302/451-8695.**



# The Technology and Media (TAM) Division of the Council for Exceptional Children (CEC)

The Technology and Media Division (TAM) is an active and growing division of The Council for Exceptional Children (CEC) with over 1400 members—a leader in research, development, training and demonstration activities related to the application of technology with exceptional individuals.

TAM was formed in 1984 in response to the expanding development and application of technology and media to the fields of special education and rehabilitation. The use of computers and related technologies can enhance the acquisition, maintenance, and generalization of knowledge and skills by exceptional individuals while enhancing the performance of personnel who work with these persons. The ability of exceptional populations to function in our increasing technological society is dependent upon their ability to use these advances as tools of daily living. Computers, video and laser disc, telecommunications, captioned television, artificial intelligence, and other new developments can be normalizing agents for these populations.

## TAM's Objectives

To promote a professional relationship among educators and other personnel concerned with the uses of technology and media with exceptional individuals

To encourage the development of new applications, technologies, and mediums which benefit the lives of exceptional individuals

To disseminate relevant and timely information about the development and application of technology and media through professional meetings, training programs, and publications

To initiate and/or cooperate with education and governmental agencies and with business and industry in research demonstration, review and validation, and other professional studies

To develop and advance standards for the use of technology and media with exceptional individuals

To provide technical assistance to persons who work with exceptional individuals to employ technology and media

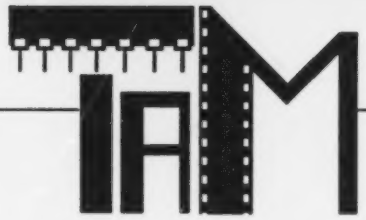
To identify the training needs of special educators and the resources required to meet those needs

To support, monitor, and disseminate research on the applications of technology with individuals with disabilities

To advocate for funds and policies that support the availability and the use of technology in the lives of exceptional individuals

To actively work as a member division within CEC to promote the activities, policies, and procedures of the organization

To provide support to other CEC Divisions in the area of technology and media



# Directory of TAM Officers

PRESIDENT
**Joel Mittler**, School of Education, C.W. Post Campus, Long Island University, Greenvale, NY 11548; 519/299-2210, SpecialNet: LONGISLAND. UNIV

PRESIDENT-ELECT
**Flo Taber**, Indiana Computer Training Project, 833 E. Northside, Bldg. 1, West Door, South Bend, IN 46617; 219/234-0260, SpecialNet: INJMEFFORD

VICE PRESIDENT
**Cindy Okolo**, Department of Educational Studies, College of Education, Willard Hall, University of Delaware, Newark, DE 19715; 302/451-8695, SpecialNet: UOFDE.ES

SECRETARY
**Lynn Fuchs**, Peabody College, Vanderbilt University, Box 328,Nashville, TN 37203; 615/322-8150, SpecialNet: PEABODY

TREASURER
**Brenda Heiman**, 6412 Dungan Drive NE, Albuquerque, NM 87109; 505/821-5285, SpecialNet: NMAPSSAO

PAST PRESIDENT
**Ted Hasselbring**, Peabody College, Vanderbilt University, Box 328,Nashville, TN 37203; 615/322-8150, SpecialNet: PEABODY

EDITOR, JOURNAL OF SPECIAL EDUCATION TECHNOLOGY & PUBLICATIONS CHAIR
**Herbert Rieth**, Peabody College, Vanderbilt University, Box 328, Nashville, TN 37203; 615/322-8150, SpecialNet: PEABODY

NEWSLETTER EDITOR
**Dave Edyburn**, Learning Technology Center, Box 45, Peabody College, Vanderbilty University, Nashville, TN 37203; 615/322-8070, SpecialNet: D.EDYBURN

BOARD OF GOVERNORS REPRESENTATIVE
**Michael Behrmann**, Department of Special Education, George Mason University, Fairfax, VA 22030; 703/323-4396, SpecialNet: GEORGEMASON.UNIV

PAN COORDINATOR
**Liz Lahm**, Center for Special Education Technology, The Council for Exceptional Children, 1920 Association Drive, Reston, VA 22901; 703/264-9462, SpecialNet: TECH.CENTER

MEMBERSHIP CHAIR
**Margaret Shuping**, Department of Special Education, 229 Taylor Education Building, University of Kentucky, Lexington, KY 40506; 606/257-2609, SpecialNet: SHUPING

AT-LARGE MEMBER
**Charles "Skip" MacArthur**, Department of Special Education, University of Maryland, College Park, MD 20742; 301/454-6921, SpecialNet: UMD.INSTIT

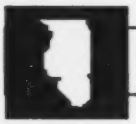
AT-LARGE MEMBER
**Cathy Morocco**, Education Development Center, 55 Chapel Street, Newton, MA 02160; 617/969-7100.

STUDENT REPRESENTATIVE
**Priscilla Moore**, Peabody College, Vanderbilt University, Box 328, Nashville, TN 37203; 615/322-8150.

CONSTITUTION BYLAWS
**Barbara Edwards**, 215 Whetherbine Way W., Tallahassee, FL 32301.

HISTORIAN
**Michael Hannum**, 10501 Sandpiper Lane, Knoxville, TN 37922; 615/693-7794.

# TAM Subdivisions offer members additional opportunities for professional development



## Illinois TAM

For more information about Illinois TAM, contact: Mary Trieschmann, 2067 N. Larrabee, Chicago, IL 60614; 312/642-2671 (H).

## Missouri TAM

For more information about Missouri TAM, contact: Merv Blunt, 5203 Sir Bors Drive, St. Louis, MO 63129; 314/894-1171 (H).

## Ohio TAM

For more information about Ohio TAM, contact: Jack SoRelle, 2668 Tully Avenue, Toledo, OH 43612; 419/385-9110 (H).

## Kansas TAM

For more information about Kansas TAM, contact: Joyce Labine, 117 Nelson, Olathe, KS 66061; 913/782-8355 (H).

## New Mexico TAM

For more information about New Mexico TAM, contact: Brenda Heiman, 6412 Dungan NE, Albuquerque, NM 87109; 505/243-7811 (O).

## Pennsylvania TAM

For more information about Pennsylvania TAM, contact: Carolyn M. Benscoter, Berwick Area Schools, 1018 E 4 1/2 Street, Berwick, PA 18603; 717/759-6407 (O).

## Minnesota TAM

For more information about Minnesota TAM, contact: Louise Wilson, 1276 Nursery Hill Lane, Arden Hills, MN 55112; 612/633-4958 (H).

## New York TAM

For more information about New York TAM, contact: Sharon Cramer, 800 W. Ferry Street, Apt. 3A, Buffalo, NY 14222; 716/885-4020 (H).

## Tennessee TAM

For more information about Tennessee TAM, contact: Kate Fleenor, Peabody College at Vanderbilt, 318 Kennedy Center, Nashville, TN 37203; 615/322-8150 (O).

# 9 Steps for Forming a TAM Subdivision

Several states have expressed an interest in forming a TAM subdivision. The following steps should serve as guidelines for organizing a subdivision.

1. Request subdivision organizational guidelines from the TAM membership chairperson.

2. Obtain a count of TAM members from the membership chairperson. There must be a minimum of 15 TAM members in your state or province to organize a subdivision.

3. Simultaneously submit to the division and to the federation a statement of intent to organize that should include: (a) Goals of the proposed subdivision, (b) Specific objectives of the proposed subdivision, and (c) Description of a plan for achieving goals and objectives

4. Solicit a letter of support from the federation.

5. Obtain a list of current TAM members from the membership chairperson.

6. Schedule a meeting to which all persons in the state or province interested in TAM will be invited.

7. Elect a temporary chairperson and appoint necessary committees.

8. Submit a constitution and bylaws to the TAM membership chairperson. These documents and the goals and objectives will be reviewed by the Constitution/Bylaws committee.

9. Upon acceptance of the constitution and bylaws and election of officers, $100 seed money will be awarded.

For more information, contact the TAM Membership Chair: Margaret Shuping, Department of Special Education, 229 Taylor Education Building, University of Kentucky, Lexington, KY 40506; (606) 257-2609, SpecialNet: SHUPING

# CEC and TAM: A Winning Combination

TAM is proud to be a division of CEC, the foremost professional organization in the world dedicated to the needs of exceptional individuals. TAM members benefit from all the services provided to all of those who join CEC, including the journals, conventions, training, and special programs which CEC offers. In addition, TAM plays a significant role in planning and implementing programs relating to technology and media throughout CEC. Most importantly, however, TAM members should realize that through their support of CEC activities they are supporting the strongest and most effective advocate for exceptional children in the world. In addition to all the benefits provided through CEC, TAM members receive:

--- 4 issues of *The Journal of Special Education Technology*

--- 5 issues of the *TAM Newsletter*

--- Opportunities to attend conferences and network with other TAM members providing information on current developments in our organization and our field

--- Information on TAM conferences and CEC regional, national, and topical meetings

--- Discounts on TAM and CEC events and products

**To join TAM, complete the CEC membership application on page 30.**

# MEMBERSHIP APPLICATION

## THE COUNCIL FOR EXCEPTIONAL CHILDREN

1920 Association Drive
Reston, Virginia 22091-1589
VOICE and TTY 703/620-3660
FAX 703/264-9494

CHAPTER # _____
(If chapter number is not known, please leave blank. CEC will inform you of your local chapter number.)

Name _____
*First (Please Print)* *Initial* *Last*

Address _____
*Street*

_____ ( )
*City* *State or Province* *Zip/Postal Code* *Phone* ☐ *work* ☐ *home*

CEC is authorized to make available, at an appropriate charge, the full or partial list of its members to certain carefully selected companies or organizations serving the fields of regular and special education. If you do not want your name included, please check this box: ☐

### Please Check Your Combined CEC International and State/Province Dues

| MAILING ADDRESS | Regular | Student* |
|---|---|---|
| US States | | |
| GA, MD, ME, TX | 60.00 ☐ | 24.50 ☐ |
| FL | 60.50 ☐ | 24.00 ☐ |
| DE, KS, NV, VT, WA | 61.00 ☐ | 24.00 ☐ |
| CT | 61.00 ☐ | 24.50 ☐ |
| MT, NC, PA, RI | 62.00 ☐ | 24.00 ☐ |
| MI | 63.00 ☐ | 24.00 ☐ |
| CO, IL, MN, NE, NY, OH | 64.00 ☐ | 24.00 ☐ |
| SC, VA, WI, WY | 64.00 ☐ | 24.00 ☐ |
| CA | 67.00 ☐ | 24.50 ☐ |
| All Other States | 59.00 ☐ | 24.00 ☐ |
| Canadian Provinces | 59.00 ☐ | 24.00 ☐ |

***Student Discount Requirement.** To be eligible for student membership, your advisor must complete the following:

I certify that the above named person is a college or university student and is not engaged in full-time employment in the education profession.

Advisor's Signature _____

Expected Graduation Date _____

### Please Check All Divisions You Wish To Join

| DIVISIONS | Regular | Student |
|---|---|---|
| A Division on the Physically Handicapped (DPH) | 10.00 ☐ | 4.00 ☐ |
| B Council of Administrators of Special Education (CASE) | 40.00 ☐ | 20.00 ☐ |
| C Council for Children with Behavioral Disorders (CCBD) | 17.00 ☐ | 9.00 ☐ |
| D Division on Mental Retardation (CEC-MR) | 12.00 ☐ | 6.00 ☐ |
| E Division for Children with Communication Disorders (DCCD) | 12.00 ☐ | 3.00 ☐ |
| F Division for Learning Disabilities (DLD) | 15.00 ☐ | 8.00 ☐ |
| G Division for the Visually Handicapped (DVH) | 10.00 ☐ | 5.00 ☐ |
| H The Association for the Gifted (TAG) | 15.00 ☐ | 7.50 ☐ |
| I Teacher Education Division (TED) | 15.00 ☐ | 5.00 ☐ |
| J Division for Early Childhood (DEC) | 15.00 ☐ | 7.50 ☐ |
| K Council for Educational Diagnostic Services (CEDS) | 15.00 ☐ | 7.00 ☐ |
| L Technology and Media Division (TAM) | 10.00 ☐ | 10.00 ☐ |
| M Division on Career Development (DCD) | 10.00 ☐ | 5.00 ☐ |
| N Division for Research (CEC-DR) | 15.00 ☐ | 5.00 ☐ |
| P CEC Pioneers Division (CEC-PD) | 20.00 ☐ | |
| Q Division for Culturally and Linguistically Diverse Exceptional Learners (DDEL) | 15.00 ☐ | 5.00 ☐ |
| R Division of International Special Education and Services (DISES) | 10.00 ☐ | 5.00 ☐ |

*Only CEC members qualify for membership in CEC Divisions.*

### Compute Total Dues Here

CEC International and State/Province Dues .... $ _____

Certificate ($2.00) ..... $ _____ (Optional*)

Dues For Divisions You Wish To Join ..... $ _____

**Total Dues Payment** .... $ _____ **U.S.**

*An attractive Certificate of Membership is available with your name printed exactly as on this application. To order, enter $2.00 above. Allow up to 8 weeks for delivery.

### Indicate Method of Payment

Payment is by: ☐ Check (in U.S. Dollars) ☐ MasterCard ☐ VISA

_____
Card No. Bank No. (MasterCard) Expiration Date

_____
Signature Daytime Telephone Number

CEC will complete: Auth. # _____ Ref. # _____

*Please send this form and your payment to:*
CEC
1920 Association Drive
Reston, VA 22091-1589

Annual membership dues in CEC include $11.00 for subscription to *Exceptional Children* and $7.50 for *TEACHING Exceptional Children*. Annual membership dues in CCBD Division include $8.00 for subscription to *Behavioral Disorders*; annual membership dues in CEC-MR Division include $5.00 for subscription to *Education and Training in Mental Retardation*. This information is given in order to meet postal regulations. Please do not use as a basis for payment.

# International TAM Conference
# Kansas City
# January 17-19, 1991

*Preliminary Conference Schedule*

**Thursday, January 17, 1991**

| | |
|---|---|
| 9:00 - 12:00 | Pre-conference AM Sessions |
| 12:00 - 1:00 | Lunch |
| 1:00 - 4:00 | Pre-conference PM Sessions |
| 4:15 - 5:30 | Opening Session<br>Greetings, Keynote |
| 5:30 - 7:00 | IBM Reception, Exhibits Open |
| 8:00 - | TAM Executive Board Meeting |

**Friday, January 18, 1991**

| | |
|---|---|
| 8:00 - 9:00 | Session I |
| 8:30 - 12:00 | Exhibits Open |
| 9:00 - 9:30 | Coffee Break in Exhibit Area |
| 9:30 - 10:30 | Session II |
| 10:45 - 11:45 | Session III |
| 12:00 - 1:30 | Lunch on your own |
| 1:30 - 2:25 | Session IV |
| 2:00 - 6:00 | Exhibits Open |
| 2:35 - 3:30 | Session V |
| 3:30 - 4:00 | Refreshments in Exhibit Area |
| 4:00 - 5:00 | Session VI |
| 5:00 - 5:45 | TAM Business Meeting |
| 6:00 - 7:00 | TAM Social |

**Saturday, January 19, 1991**

| | |
|---|---|
| 8:00 - 9:00 | Session VII |
| 8:30 - 1:00 | Exhibits Open |
| 9:00 - 10:00 | Coffee Break in Exhibit Area |
| 10:00 - 11:00 | Session VIII |
| 11:15 - 12:15 | Session IX |
| 12:15 - 1:30 | Lunch on your own |
| 1:30 - 2:30 | Session X |
| 2:45 - 3:45 | Session XI |
| 3:45 - 4:00 | Break with Refreshments |
| 4:00 - 5:00 | Session XII |
| 5:00 - | TAM Executive Board and<br>Conference Committee Meeting |

## Registration

The following fee structure has been established for the 1991 TAM Conference:

| | |
|---|---|
| Full-day Pre-conference Workshop Registration | $80 |
| Registration for TAM Members | $80 |
| Single Day (Fri. or Sat.) | $ 50 |
| Registration for Students (Advisor's Signature Required) | $50 |

Registration postmarked before December 12, 1990 qualify for a 10% discount.

For more information, contact: Jami Hays, Dept. of Special Education, University of Kansas, 3150 Haworth Hall, Lawrence, KS 66045; 913/864-4954.

## Hotel Reservations

For reservations, contact: Hyatt Regency Crown Center—Kansas City, 2345 McGee Street, Kansas City, MO 64108; 816/421-1234.

## Mark Your Calendar!

**6th Annual International TAM Conference on Special Education and Technology**
**January 9-11, 1992**
**Albuquerque, New Mexico**

A copy of the Call for Participation is included in this issue. The deadline for proposals is May 17, 1991. For additional information, contact:

Dr. Cynthia M. Okolo
Educational Studies
Willard Hall, Room 213
University of Delaware
Newark, DE 19716
302/451-8695

## CEC 69th Annual Convention

**April 1-5, 1991**

TAM Dave L. Edyburn, Editor

The TAM Newsletter is published five times a year (October, December, February, April, and June) to inform TAM members about organizational activities and developments within the field of special education technology. Inquiries about this newsletter may be directed to:

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